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K. Natarajan

Panchakavya

A Manual

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by

K. Natarajan

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By K. Natarajan

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Preface

From my early childhood, I was attracted towards nature and its mysteries. I was brought up in a remote village with natural surroundings unaffected by modern development, which ensured my total love for nature. During my growing years, my association with *sadhus, yogis* and native healers created a thirst to seek inner bliss and a natural life. The search ended after many frustrated years, when in 1972, during my college days, I met my Master Swami Jeevananda. He initiated me into the Path of Light known as Siva Rajayoga meditation of the ancient *Siddhas*. After sincere and persistent practice for 21 long years, my Guruji conferred masterhood upon me in 1993. From that moment, my entire perception of the world changed. I understood the cosmic unity in everything and now consider even a tiny dust particle as holy as the sun.

During my medical practice and interaction with people, animals and plants, I came to understand the delicate role of the *Panchabhootas* (the five elements of nature, i.e. Earth, Water, Fire, Air and Space) and the *Tridoshas*, viz. *Vadha* (air), *Pitha* (fire) and *Kapha* (phlegm) in maintaining the health of all the living creatures of the earth. Each element must be in proper proportion and also in harmony with nature. Any disequilibrium in the natural ratio of the five elements will lead to disease in plants, animals and human beings. Our ancient forefathers knew this secret. Based on these principles, they created the medical system called *Ayurveda* for human beings, *Mrigayurveda* for animals and *Vrikshayurveda* for plants.

By the grace of Divine Will, I came face-to-face with the reality of *Panchakavya* during a Maha Sivarathri day in the year 1998. After that momentous encounter, I delved deep into the inner core of *Panchakavya* and formulated a modified version of *Panchakavya* by adding four more natural ingredients for use with plants, animals and human beings.

There was no looking back from that Maha Sivarathri day which completely turned our focus on how to transform chemical agriculture into organic farming, and ensure better veterinary care and human health care with the use of *Panchakavya*.

Every day our organic farmers find new uses for *Panchakavya* and the preparation is fine-tuned for maximum efficacy. The simple village folk not only use it to treat plants, but also animals and human beings for various ailments with successful results. Even HIV-positive people respond well to *Panchakavya* therapy.

I have also formulated a bio-pesticide, which bagged the SRISTI award for its ease of preparation, economy, effectiveness and lack of side effects. Thereafter I was also successful in formulating an herbal antibiotic and herbal immunity booster for cattle. Both of them have revolutionised the veterinary health care system, and even the National Dairy Development Board (NDDB) has initiated trials with the above products. There is no equivalent medicine in the modern veterinary health care system to match the efficacy of these herbal formulations.

I have also prepared two herbal medicines for the common human diseases of *diabetes mellitus* and arthritis. There is no modern medicine to cure *diabetes mellitus* and arthritis. But our herbal medicines, when used along with *Panchakavya*, provide almost total relief.

All the above formulations are easy to prepare using locally available ingredients. They are highly effective and economical. We conduct free training programmes to teach farmers how to prepare and use the above formulations, and also conduct demonstrations of other organic farming methods, ethno-veterinary medicines, and herbal treatments for human diseases through the Rural Community Action Centre (RCAC).

Now our message has gone far and wide due to the tireless efforts of organic farmers like Shri. G. Nammalvar; Shri. P. Vivekanandan, SEVA; Smt. K. Vijayalakshmi, CIKS; Prof. Dr. E. Vadivel, Tamil Nadu Agricultural University; the organic farming movement as a whole; and all friends and lovers of organic farming. I thank all those who support our movement for organic farming.

May everyone become self-conscious, health-conscious and eco-conscious to usher in a new era with a harmonious and pleasant life style!

K. Natarajan, M.B.B.S.

1

What is *Panchakavya*?

Introduction

Ancient wisdom is a treasure house of knowledge systems to safeguard the health and well-being of humankind, animals and plants. *Vrikshayurveda* is one such knowledge system, advocating agriculture with the use of natural inputs. It promotes a system which synchronises all agricultural operations with natural forces emanating out of the *Panchabhootas*, viz. Earth, Water, Air, Fire and Space.

When human beings, animals and plants were in perfect harmony, everything was wholesome and no remedial, correctional and improvement measures were required, as there existed no ailments. Consequent to the domination and exploitation of flora and fauna by humans, and deviation from a natural life-style, problems cropped up due to forced imbalances in natural elements, and the immediate casualty was human health and well-being. Agriculture was no exception. Thus, 'health care' for soil, plant, micro- and macro-organisms as well as humans has deteriorated over time; chemical agriculture has worsened the scenario, and health hazards have increased exponentially.

Historical Background

Masanobu Fukuoka, author of the *One Straw Revolution*, was one of the first to voice these concerns across the world and sensitize the minds

of thoughtful scholars. Rachel Carson, the author of *Silent Spring*, created a powerful wave against the invasion of chemicals into agriculture, the environment and the human body.

Notwithstanding such voices of grave concern, chemical agriculture continued over the decades to poison the land, water and air. As a result, many crop laboratories of the world, reputed international figures and NGOs extended their support to organic farming. A green movement, which championed the cause of organic agriculture during the late eighties, arose in the West.

Theories and concepts of organic agriculture were developed and popularized under different names, viz. organic agriculture, green culture, natural farming, do-nothing farming etc. The enlightened public started demanding toxin-free food products. The market demand for organic produce gave further momentum to the organic movement, and eventually sporadic attempts have been made to detoxify the land, dispense with chemical fertilizers, pesticides, fungicides and herbicides, and grow crops organically. There was no organic substitute for these chemicals, yet the cause of organic agriculture picked up momentum.

Organic manure replaced chemical fertilizers, herbal extracts replaced pesticides and fungicides, but nothing was available to replace growth-promoting hormones and immunity boosters for plants. The organic system was imperfect and continued to be incomplete for want of an input to replace growth-promoting hormones and immunity boosters, to maximize the efficiency of cultivated crops and coordinate the process leading to sustained higher productivity.

Indian knowledge systems have the answer to many problems of humanity. Our forefathers had propounded and practised those systems directed towards attainment of a healthy body and sound mind. But humanity was lured by chemical technology and it abandoned the ancient wisdom generated during the past. *Vrikshayurveda* is a treasure trove of information on agriculture and as such could lend support to organic agriculture. *Panchakavya* has been one such piece of wisdom, meant to safeguard all the human beings, animals, plants and microorganisms that dwell on the earth's surface.

Original Utility

Panchakavya consists of five products from the cow: dung, urine, milk, curd and *ghee*. When suitably mixed and used, these have miraculous

effects. *Panchakavya* is prepared and used when performing rituals for forefathers at a particular lunar phase; when the person or the house is to be purified after the death of someone in the family; when a housewarming ceremony is performed in a new house to ward off evil forces; on the day a young priest is administered the *Gayatri Mantra* with the sacred thread; and on Maha Sivarathri day, the day of Lord Siva.

All these give an impression that *Panchakavya* is used to establish a link between living and dead, seen and unseen, physical and para-physical, and earthly and heavenly forces. Such a high esteem and status for a simple product from a common animal may sound paradoxical, but when the truth is unravelled, one is overcome with wonder.

Need for equilibrium of basic elements

Earthly beings are made up of five basic elements, viz. Earth, Water, Fire, Air and Space, which are at non-equilibrium within themselves and also with each other. This is the reason for the existence of beings with all kinds of inequalities. Indian wisdom says that these basic units are almost at equilibrium in the cells of a cow, which is why the cow has been accepted as near divine in Indian culture, and worshipped as God from time immemorial. It is called *Kamadhenu*, the giver of all riches to humanity.

According to ancient texts, all beneficent forces like gods, *devas*, sages, *ogis* and divine spirits are said to dwell in the body of the cow. The products from the cow have the ability to bring in the flow of cosmic energy, whenever and in whatever form they are used. Cosmic energy, even a speck of it, when made to pass through a living system, transforms the living being to wholesomeness, removing the imbalances in its physical, chemical, biological and physiological aspects, and harmonizes the basic elements which results in revitalization of the growth process.

2

Panchakavya for Farmers

I was once offered a *thirtha* (*prasad*) made of *Panchakavya* while I prayed at the Siva temple, Kodumudi, on a Maha Sivarathri day. Out of curiosity, I, the physician, asked the priest, 'Why do you consider *Panchakavya* divine and offer it as *prasad*?' The priest replied, '*Panchakavya* cures the preexisting ailments and protects against all ailments to come.' Intrigued by this wholesome answer, the physician continued to ponder over the logic and rationale of using animal excreta and products, after fermentation, as a remedy for human ailments.

My participation in an international conference on medicinal plants held at Bangalore in 1998, and perusal of the books *One Straw Revolution* by Masanobu Fukuoka and *The Organic Farming Source Book* by Claude Alvares led me to experiment with *Panchakavya* on plants. This ignited a chain of experiments conducted over three years, to standardize the present form of *Panchakavya*, the single organic input which can act as a growth-promoter and immunity booster. This product has revolutionized and revitalized organic agriculture in Tamil Nadu, and is poised to sweep the whole world in days to come.

Improving the *Panchakavya recipe*

Gobar gas slurry

Use of fresh cow dung means that 15 days are required for fermentation and for the methane gas to be exhausted, but farmers

cannot wait so long. The use of gobar gas slurry in *Panchakavya* was experimented with and it was found that in this way, *Panchakavya* is ready for use in 7 days.

Sugar base

Sugar accelerates the fermentation process. Initially honey was added along with *Panchakavya*. Considering the cost of honey, jaggery was added instead. However, since jaggery contains chemical ingredients, sugarcane juice was substituted to accelerate the fermentation process. Bananas were also added to act as a substrate for microorganisms.

Bad odour and *toddy*

The *Panchakavya* was emitting a bad smell due to the fermentation process. Toddy was experimented with. Various quantities were added as an additional ingredient and this contained the bad odour to a great extent and also enhanced the fermentation process.

Tender-coconut water

Speed of fermentation was slow, and experiments were tried with tender-coconut water. The tender-coconut water not only accelerated the fermentation process but also activated the growth of meristem at a faster rate, since it contains cytokinin.

Fresh cow dung

Even after seven days of preparation, the ghee would float on top of the *Panchakavya*, which hindered the process of spraying as it clogged up the nozzle. When a handful of fresh cow dung was added to the ready-to-use *Panchakavya*, it was able to make the ghee miscible with water.

Recommended Method of Preparation

Thus, the latest form of *Panchakavya*, suited to various agricultural and horticultural crops, has been standardized as given in *Table 1*.

The cost of production is around Rs. 35 per litre. If the volume is more and the farmers use their own cow's products, the cost can be further reduced. By using the quantity of ingredients specified in the table, one can obtain approximately 20 litres of *Panchakavya*.

Table 1: Ingredients for making *Panchakavya*

Cow dung slurry (from gobar gas plant)	*4 kg*
Fresh cow dung	*1 kg*
Cow urine	*3 litres*
Cow's milk	*2 litres*
Cow's curd	*2 litres*
Cow's ghee	*1 kg*
Sugarcane juice	*3 litres*
Tender coconut water	*3 litres*
Banana (ripe)	*12*
Toddy (if available)	*2 litres*

Mode of preparation

All the above items can be added to a wide-mouthed mud pot, concrete tank or plastic cans in the order specified above. The container should be kept open but in the shade. The contents are to be stirred twice a day, both in the morning and evening. The *Panchakavya* stock solution will be ready after the 7th day. Care should be taken not to mix buffalo products. The products of local breeds of cow are said to have more potency than exotic breeds.

The hump and horn help identify the local breeds. The hump is said to be sensitive to cosmic vibrations, while the horn prevents vibration of any kind from anywhere. Both regulate the inflow and outflow of cosmic forces in cows. Cows and bulls kneel down if their hump is gripped with the hand. In castrated bulls, the hump is small, while in uncastrated bulls, the hump is usually luxurious with dark shining hairs. There must be a link between vitality and the hump in animals.

Alternative methods

In places where gobar gas slurry is not available, the following method can be used. Add 7 kgs of fresh cow dung to 5 litres of cow urine and 5 litres of water and keep in a suitable container in the shade. The container should be kept open for aeration and to allow the gas produced during the fermentation process to escape. Mix thoroughly and stir the solution twice daily for 15 days. On the 16th day add the rest of the ingredients and continue stirring twice daily. On the 22nd day the *Panchakavya* will be ready for use. If sugarcane juice is not available, add 500 grams of jaggery dissolved in 3 litres of water.

Likewise, if toddy is not available, add 100 grams of yeast powder and 100 grams of jaggery to 10 litres of warm water. After 30 minutes, add this solution to replace toddy in *Panchakavya*. When stirred twice daily, the *Panchakavya* solution can be kept for 6 months without any deterioration in its quality. Whenever the solution becomes thick due to evaporation of water over a long period, suitable quantity of water can be added to keep it in a liquid state.

Recommended Dosages

Spray system

Three per cent solution was found to be most effective compared to the higher and lower concentrations investigated. Three litres of *Panchakavya* to every 100 litres of water is ideal for all crops. The power sprayer of 10 litres capacity may need 300 ml tanks of *Panchakavya*. When sprayed with power sprayer, sediments are to be filtered and when sprayed with hand-operated sprayers, a nozzle with higher pore size is to be used.

Flow system

The solution of *Panchakavya* can be mixed with irrigation water at 20 litres per acre, either through drip irrigation or flow irrigation.

Seed/Seedling treatment

Three per cent solution of *Panchakavya* can be used to drench the seeds, soak or dip the seedlings before planting. 20 minutes soaking is sufficient. Rhizomes of turmeric, ginger and sets of sugarcane can be soaked for 30 minutes before planting.

Seed storage

The three per cent *Panchakavya* solution can be used to dip the seeds before drying and storing them.

Periodicity of application

Pre-flower phase (20 days after planting)	*Once in 15 days (two sprays depending upon duration of the crops)*
Flowering and pod-setting stage	*Once in 10 days, (two sprays)*
Fruit/pod maturation stage	*Once during pod maturation*

Beneficial effects on commercial crops

Mango

- Induces dense flowering with more female flowers.
- Irregular or alternate bearing habit stops and the tree continues to fruit regularly.
- Enhances keeping quality by 12 days at room temperature.
- Flavour and aroma are extraordinary.

Acid lime

- Continuous flowering is ensured round the year.
- Plump fruits with strong aroma.
- Shelf life is extended by over 10 days.

Guava

- Higher T.S.S. (Total Soluble Solids) and brix, and hence tasty.
- Shelf life is extended by 5 days.

Banana

In addition to adding with irrigation water and spraying, the three per cent solution (100 ml) was tied up at the navel end of the bunch after the flower is removed. The bunch size becomes uniform. The fruits split due to faster growth of pulp. Harvest can be done one month earlier. The size of the top and bottom hands was uniformly big.

Turmeric

- Enhances the yield by 22 per cent
- Extra long fingers
- Ensures low driage loss
- Narrows the ratio of mother and finger rhizomes
- Helps survival of dragon fly, slugs, spiders etc. which in turn reduce pest and disease load
- Sold for premium price as mother/seed rhizome
- Enriches the curcumin content

Jasmine

- Exceptional aroma and fragrance
- No incidence of bud worm
- Continuous flowering throughout the year

Vegetables

- Yield enhancement by 18 per cent, and in few cases like cucumber, the yield is doubled
- Wholesome vegetables with shiny and appealing skin
- Extended shelf life
- Very tasty with strong flavour

Paddy

- Heavy tillering
- 300 grains per earhead
- No chaffy grains
- The harvest is advanced by 15 days
- Percentage of broken rice reduces during milling
- Grain weight is higher by 30%
- The cooked rice remains edible on the next day

Panchakavya was investigated on sugarcane, gingelly, groundnut, sunflower and coconut. In all the crops, *Panchakavya* acted as a growth stimulant (75%) and disease pest inhibitor (25%).

General effects of use of *Panchakavya* on plants

Leaf

Plants sprayed with *Panchakavya* invariably produce bigger leaves and develop denser canopy. The photosynthetic system is activated for enhanced biological efficiency, enabling synthesis of maximum metabolites and photosynthates.

Stem

The trunk produces side shoots which are sturdy and capable of carrying maximum fruits to maturity. Branching is comparatively high.

Roots

The rooting is profuse and dense. Further, they remain fresh for a long time. The roots spread, and growth into deeper layers were also observed. All such root parameters help maximum intake of nutrients and water.

Yield

There will be yield depression under normal circumstances when the land is converted to organic farming from inorganic systems of culture. The key feature of *Panchakavya* is its efficacy to restore the yield level of all crops when the land is converted from inorganic cultural system to organic culture from the very first year. The harvest is advanced by 15 days in all crops.

It not only enhances the shelf life of vegetables, fruits and grains but also improves the taste. By satisfying the merchants and consumers on both the counts, the produce fetches a good price. By reducing or replacing costly chemical inputs, *Panchakavya* ensures economic gain and liberates the organic farmers from loans.

Drought hardiness

A thin oily film is formed on the leaves and stems, thus reducing the evaporation of water. The deep and extensive roots developed by plants allow the plants to withstand long dry periods. Both the above factors contribute to reduce the irrigation water requirement by 30 per cent and to ensure drought hardiness.

Experiences of farmers with various plants

Jasmine

'I adopt *Panchakavya* technology for jasmine, turmeric and onion. The jasmine flowers possess exceptionally high fragrance. At Srirangam and Karur flower market, the flowers are offered premium price of at least 30% higher than the standard price of the day. The bud is bright white in colour and is free of budworm infection. The peculiar feature is that 0.70 acre produces 5 kg/day, even during winter.' (S. Eswaramurthy, Karattupalayam)

Turmeric

'I raised turmeric crop organically with the help of *Panchakavya*. There was no necessity for chemical pesticide spray. The leaves are comparatively thick, hard and non–fleshy till harvest. The green colour of leaf was neither dark nor light but uniform throughout. I sprayed *Panchakavya* 5 times. It cost only Rs. 20 per litre for preparation and spraying cost of Rs. 8 per tank. It is 60 per cent cheaper than pesticides and growth promoter sprays. There was no yield loss but there was

▲ *Sugarcane with application of Panchakavya. Farmers report as good, if not better, production. In all cases, farmers growing sugarcane absolutely stop use of chemical fertilisers and pesticides. They also go in for ratoon crops and refuse to burn sugarcane waste in their fields.*

Jasmine fields grown with the use of Panchakavya and earthworms. The jasmine flowers from such fields have a greater fragrance and last longer. ▼

▲ *Farmer proudly displays tapioca roots dug from a tapioca field irrigated with only Panchakavya solution.*

Turmeric, like tapioca, is a root crop and responds well to the application of Panchakavya. After harvests like these, no farmer will return to the use of chemicals. ▼

▲ *Panchakavya is also used for ordinary kitchen vegetable gardens like brinjal for getting better and healthier fruit*

Unlike in the case of crops grown with chemical fertilisers, each of the rice spikelets is filled with grain in Panchakavya fertilised fields. ▼

▲ *The size and length of drumsticks from a drumstick tree fertilised with panchakavya solution is twice that of normal Moringa trees.*

Here a mango tree bursts into blossom after regular application of Panchakavya sprays ▼

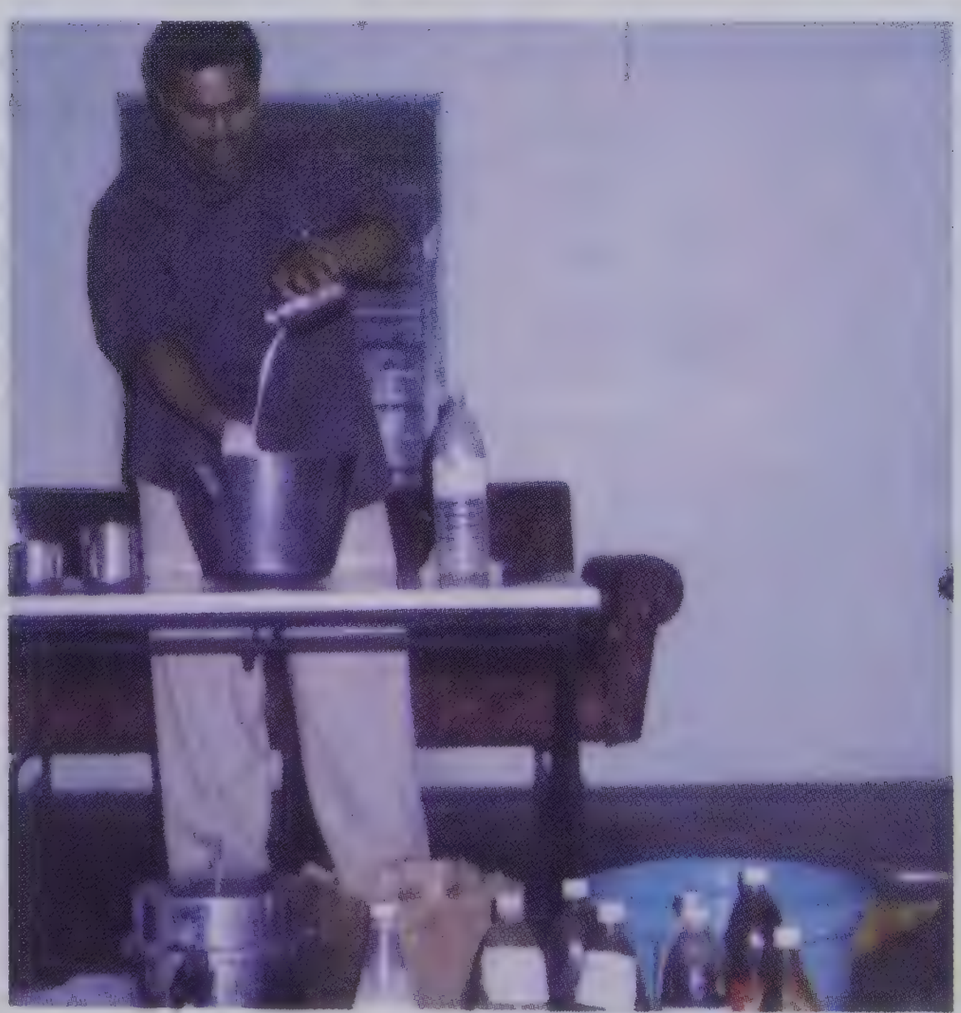
▲ *Earthworms multiply in huge quantities with the application of Panchakavya.*

Regular miscarriage of goats cured by the administration of Panchakavya. ▼

▲ *Animal with stunted growth began to improve after it was administered Panchakavya in regular doses.*

Animals that were unable to conceive (called "repeaters", as they keep repeating their cycles without getting pregnant) are successful once administered Panchakavya ▼

The banana plant responds well to Panchakavya fertiliser. In addition, farmers administer Panchakavya through a pouch to the bunch itself after it has appeared ►



◄ *Panchakavya solution is easy to prepare. All the required ingredients are available on the farm. Unlike other microbial solutions, Panchakavya does not demand sterilised water for the preparation of the solution*

▲ *Bananas from a plantation fed exclusively with Panchakavya solution in the irrigation water. Farmers like the one above have completely stopped using chemical fertilisers.*

Nammalwar and Dr Natarajan at a demonstration lecture on Panchakavya. These two individuals have done maximum to spread the message of its effectiveness. ▼

quality improvement with low shrinkage and shining yellow colour.' (S. Sakthivel, Korakkattupudur)

Sugarcane (chewing type)

'I am an organic farmer and cultivate turmeric and sugarcane (chewing type). I used *Panchakavya* seven times and was able to get 30,000 canes per acre with exceptional height, lengthier internodes and greater thickness of size. The sweetness was 30° brix with extreme sweetness. I was able to sell each cane at Rs. 10.' (S. Duraisamy, Puravipalayam)

Drumstick

'The flowering was extended beyond five months, while the normal crop stops fruiting after 4 months. I was fed up with pesticide spray as I couldn't control the fruit fly and leaf webber. *Panchakavya* was a remedy to control the pests as well as to ensure productivity.' (K. Ramasamy, Arikkarankattur)

Banana

'I attempted *Panchakavya* by three different ways: first, by adding to irrigation water; second by tying the solution in polybags at the terminal end of the bunch after removing the male bud; and third, as spray before and after bunch shooting. I was astonished to see the bunch with bright yellow colour come to harvest 30 days earlier. The top and bottom hands were almost similar in size. The texture of the pulp was fine and sweetness was more. I was able to get 1100 bunches out of 1200 suckers planted in an acre.' (V. Sadagopan, Kulithalai)

Besides those cited above, there are a large number of farmers who have been using *Panchakavya* for over 4 years and continue to enjoy the benefit.

3

Panchakavya for Animal Health

After successful studies on plants using *Panchakavya*, trials were started on animals and humans. So far, the results are highly encouraging and very successful. Many farmers have started using *Panchakavya* and they gratefully inform other farmers of its effectiveness.

Mode of Action

Basically, *Panchakavya* is a living elixir of many microorganisms, bacteria, fungi, proteins, carbohydrates, fats, amino acids, vitamins, enzymes, known and unknown growth promoting factors, micronutrients, trace elements, antioxidants and immunity enhancing factors.

Panchakavya is given as *prasad* in Siva temples during Maha Sivarathri from time immemorial. It is as ancient as Lord Siva Himself. We have just modified it by altering the ratio of the ingredients and adding a few more natural ingredients to enhance its richness and effectiveness. The formula continues to be refined, by trial and error.

When taken orally by animals and human beings, the living microorganisms in the *Panchakavya* stimulate the immune system and produce a lot of antibodies against the ingested microorganisms. It acts

like a vaccine. This response of the body increases the immunity of animals and humans and thus helps prevent illness and cure disease. It slows down the aging process and restores youthfulness. The other factors present in *Panchakavya* improve appetite, digestion, and assimilation and elimination of toxins in the body. Constipation is totally cured. Thus, the animals and humans become hale and healthy with shining hair and skin. The weight gain is impressive. One has to see it and experience it to believe how effective it can be.

Use of *Panchakavya* with animals

So far we have tested it on dogs, pigs, poultry, fisheries, goats, sheep, cows and humans with successful results and without any unwanted harmful side effects, unlike other chemical drugs, which do have residual effects.

Dogs

My son brought a Labrador puppy from the Ooty hills one summer. Due to the hot summer climate in my place, the pup was not able to adjust to the climatic change. It developed boils all over the body, which started oozing eczematous lesions with falling hair and bad smell. It started losing weight and was unable to walk and became bedridden. I consulted many vets and gave all the treatments they suggested. Nothing improved the condition of the dog and its health became worse day by day. Then the vets advised mercy killing. Since my entire family was very much attached to the pup, we rejected the idea outright.

Then I got an intuition, 'Why not try *Panchakavya* on my dog?' With some reluctance I gave *Panchakavya* to my dog. After some initial hesitation, it started taking it. I gave it 200 ml per day, once in the morning for 10 days. Then the wonder of all wonders happened! The wound started healing, the oozing stopped, the hair started growing, its appetite improved and it took more food. Within 10 days, it started playing and became very active. Within a month, it was completely cured and its growth and weight gain was fast with shining hair. After that it never fell ill. The veterinary doctors were surprised and started recommending the same treatment to other dogs. Now *Panchakavya* as a veterinary remedy is admired by all. Whenever our friend, philosopher and guide, the nature scientist Dr. G. Nammalwar, visits my home, he never fails to fondle the dog and both have become very good friends.

Pigs

Panchakavya was mixed with drinking water or feed at the rate of 50 ml to 200 ml per pig depending upon the age and weight. The pigs became healthy and disease-free. They gained weight at a faster rate. The feed-to-weight conversion ratio increased tremendously. This helped the piggery owners to reduce the feed cost and to get very good returns due to increased weight.

Goats and sheep

The goats and sheep became healthy and gained more weight in a short period after having administered 50 ml to 100 ml *Panchakavya* per animal per day depending upon the age.

Cows

Initially I thought cows would not take *Panchakavya* because it is its own excreta. However, it was proved wrong by my farm assistant. He mixed it in the feeding trough with animal feed and water at the rate of 200 ml per cow per day. The cows became healthier with increased milk yield, fat content and SNF. The rate of conception increased. The retained placenta, mastitis and foot and mouth disease became things of the past. Now the skin of the cow is shiny with more hair and looks more beautiful.

Instead of spraying urea on paddy straw (hay) before staking, a few farmers sprayed the 3 per cent solution of *Panchakavya*, layer after layer during the staking, and allowed it to ferment. The cows prefer such hay compared to unsprayed hay stock.

Poultry

When mixed with the feed or drinking water at the rate of 5 ml per bird per day, the birds became disease-free and healthy. They laid bigger eggs for longer periods. In broiler chickens the weight gain was impressive, and the feed-to-weight conversion ratio improved.

Fish

Panchakavya was applied daily with fresh cow dung in fishponds. It increased the growth of algae, weeds and small worms in the pond, thus increasing the food availability to fish. The only precaution is that fresh water must be added to the ponds at frequent intervals. Otherwise, the growth of algae, weeds and other organisms will compete with the fish

for available soluble oxygen in the water. Alternatively, mechanical agitators can also be used to increase the oxygen content in the water. In ten months time each fish grows to a weight of 2 to 3 kgs. With reduced death rate of small fingerlings and increased weight of marketable fish, the fisheries became more profitable.

Other Veterinary Care Products

Herbal Antibiotic

Training programmes have been organised to train the farmers in the preparation of the botanical product for cattle care. It is a decoction of fresh neem bark and leaves of the jackfruit tree.

Preparation

Add 300 grams of fresh neem bark (after discarding the dried outer layers) and 200 grams of green leaves of jackfruit tree to 5 litres of water and boil it in a mud pot to reduce it to 2.5 litres of concentrated decoction. After filtering it, the red coloured decoction can be used as oral medication for cattle.

Dosage

Cattle - 500 ml one time dose on appearance of symptoms
Can be repeated if the symptoms persist
500 ml one time dose to other animals as a preventive measure

Calves - Half the above dose

Goats - 100 ml/dose

Special features

- Controls and prevents foot and mouth disease in cattle
- Prevents and cures all kinds of fever in animals
- Acts as a deworming agent.
- Restores the fertility status
- Does not have any side effects

Cattle Immunity Booster

RCAC imparted training to farmers on how to prepare the cattle immunity booster. It contains leaves of *Azadiracta indica, Albizzia amara, Tinospora cardifolia, Andrographis paniculata* and roots of *Withania somnifera*.

Preparation

After shade drying, powder the above ingredients by pounding in a stone mortar. Each ingredient should be powdered separately. Then mix them in the following proportion to make 1 kg of powder for usage.

Azadiracta indica leaf powder	300 grams
Albizzia amara leaf powder	300 grams
Tinospora cardifolia leaf powder	50 grams
Andrographis paniculata leaf powder	50 grams
Withania somnifera root powder	300 grams

Dosage

20 gm once a day mixed with the cattle feed and drinking water of the cattle.

Special features

- Boosts the immunity to all kinds of diseases in cattle.
- Deworms, cleanses intestine, enhances digestion and assimilation.
- Upgrades quality of milk with increased milk yield, fat content, SNF and nutrients.
- Regulates the ovulation cycle and increases conception rate.
- Prevents retained placenta.
- Prevents mastitis, fevers and foot and mouth disease.
- Cost-effective.

4

Panchakavya for Human Health

The farmers who handled *Panchakavya* and herbal pesticide informed me that their appetite was more. Psoriasis was cured. The light white patches on the skin disappeared. The split wounds on the foot healed.

One lady with psoriasis all over the body was under allopathic treatment for over one and a half years. She happened to prepare *Panchakavya* for field use and stir the contents with her forearm. After 15 days, the psoriasis in her forearm got fully cured. Following her own intuition, she smeared *Panchakavya* all over the body and to everyone's surprise, the psoriasis disappeared in 21 days. This has made me think in terms of using *Panchakavya* to treat human ailments. Some experiences are given below:

AIDS/HIV

AIDS patients regained lost appetite and digestion and put on weight. They slept better. Their fever, cough, diarrhea and skin lesions disappeared within a month's treatment. Most of them are now working in the fields and others are pursuing their own professions. Even though the blood tests are still positive, they exhibit no symptoms of AIDS and lead a normal healthy life. I hope the blood tests may become negative after long use.

First I gave it to an AIDS patient. The patient was very weak and bedridden. After taking *Panchakavya* at the rate of 200 ml per day for 15 days, his appetite and digestion improved and he gained 3 kgs weight. He was able to walk. Due to the bad smell of the *Panchakavya*, he refused to take it after 15 days. He died after six months. This gave rise to many questions. I lost a golden chance to treat an AIDS case. This forced me to think of reducing the bad odour of *Panchakavya*. After many trials and errors I have now arrived at a suitable dosage regimen as given below:

Add 10 ml of filtered *Panchakavya* to 200 ml tender coconut water. Then add 5 ml of fresh lemon juice and 10 ml of honey. This makes the elixir more tasty and acceptable. This has to be taken early in the morning in an empty stomach. After 3 hours, food can be taken. It enhances the fermentation and reduced bad smell to a great extent. Now it is more palatable and acceptable to the patients. I advise the patients to take lot of raw vegetable salads, fruits, sprouted cereals and pulses. They must avoid all non-vegetarian, spicy and oily foods. The same regimen is followed for all cases and all diseases. Now more and more people are taking it.

Psoriasis

In psoriasis, it is very effective and the lesions disappear within six months. In eczema and other allergic skin disorders, healing is even faster. One of our natural farming friends, Shri Mohanasundaram, has started treating the skin diseases with *Panchakavya* with very good results. He is doing it as a free service at his farm. It can also be applied on skin lesions.

Neurological disorders

When given to patients suffering from neurological disorders like convulsions and Parkinsonism, it helped to reduce the frequency of the attacks in convulsions and reduced shaking of the hands and head in Parkinsonism. They were able to reduce the regular medicines.

Diabetes mellitus

When 10 ml of filtered *Panchakavya* per day was taken early in the morning on an empty stomach, it reduced the blood sugar and enabled the patients to reduce the dose of antidiabetic drugs. Complaints like general weakness, indigestion, constipation and burning sensation in the feet disappeared within a month. They became active and healthy.

Pulmonary Tuberculosis

It can be given in addition to the regular anti-TB drugs,. Fever disappeared within a week and cough was controlled within two weeks. Appetite improved and the patients gained body weight. The duration of anti-TB treatment was reduced by one month.

Arthritis

It completely relieves the joint pain, swelling and stiffness. Arthritis is cured within two months. Now even healthy people take it to become more healthy and energetic.

Herbal Products for Other Ailments

Arthritis

Dried and mixed powders of the following herbs in equal quantity:

- *Cardiospermum*
- *Delonix indica*
- *Withania somnifera*
- *Phyllanthus embilica*

Dosage

Two teaspoons once in the morning and evening, taken orally directly or mixed with honey. Within three months the patients are cured.

Diabetes Mellitus

The powders of the following ingredients mixed in equal quantity:

- *Gymnema* leaves
- *Amla* fruits
- *Jamun* seeds
- *Tinospora cardifolia* leaves and stem bits
- *Aegle marmelos* (*Bilva*) leaves
- *Terminalia chebula* seeds

Dosage

Two teaspoons in a day, once in the morning and evening. It reduces the blood sugar and enables the patient to reduce their regular drugs. It prevents and cures all complications of diabetes like loss of vision, renal failure, cardiac problems and neuritis.

5

Other Useful Natural Products

***Amritha* solution**

This can be used as a starter solution.

Ingredients

Fresh cow dung	10 kg
Fresh cow urine	10 litres
Jaggery	250 gms
Water	100 litres

Mix the above ingredients in a cement tank and stir twice daily. The fermented solution will be ready for use after 24 hours.

Usage

Ten per cent solution can be used as a soil booster by flow irrigation and the same as foliar spray for all crops, once in 15 days to one month.

Requirement

Flow irrigation	500 litres/acre
Foliar spray	10 litres/acre

Special features

- Enriches even degraded soil with micronutrients and humus
- Increases soil microbes and earth worm population
- Enhances the aeration of the soil
- Plants grow faster with deep and dense roots
- Acts as a growth promoter and increases the yield
- Easy and economical to prepare

Butter milk and Coconut milk

Preparation

Take five litres of buttermilk and five litres of coconut milk in a mud pot and carefully place the mud pot inside the cow dung heap or compost heap. The heat inside the cow dung heap will accelerate the fermentation of the solution and the solution will be ready for use after one week.

Usage

Ten per cent solution as foliar spray once in 15 days to one month.

Requirement

10 litres / acre

Special features

- Acts as a plant growth promoter
- Increases yield
- Homemade and hence cheap

Butter milk + *Albizzia amara* leaf power

Preparation

Take 10 kgs of *Albizzia amara* powder (traditionally used like the soap nut powder during oil bath) and 10 litres of buttermilk in a mud pot and carefully place it inside the cow dung heap for one week. Then the solution is ready for use.

Usage

Ten percent solution as foliar spray once in 15 days to one month.

Requirement

10 litres per acre

Special features

- Acts as a plant growth promoter
- Increases yield
- Home-made and hence cheap

Bio-Pesticide

This has won the SRISTI Award in 2000 and gained entry into the small National Database of National Innovation Foundation, Ministry of Science and Technology, Government of India.

Ingredients

- Leaves of *Vitex negundo*
- Leaves of *Clerodendran inerme*
- Leaves of *Calotropis gigantia*
- Leaves of *Aloe vera*, and,
- Seeds of *Azadiracta indica*

Preparation

Two kgs of each ingredient are pounded in a mortar and mixed with 10 litres of cow urine in a non-metallic vessel. It should be stirred twice a day and allowed to ferment for 15 days. Then the solution should be filtered and used as a foliar spray.

Some farmers found it difficult to pound the fresh leaves and attempted to immerse all fresh leaves in a water tub for seven days. The decoction of the leaves mingles with water, and when sprayed is said to have the same potency as that of the pounded product. These types of farmers' initiatives could lead to newer versions in future.

Usage

5% of the solution can be used as a foliar spray to control all types of pests.

Special features

- Natural and does not pollute the environment.
- It has a proven effect on control of pests and diseases of rice, turmeric, onion, sugarcane, vegetables fruits crops.

- It does not cause any residual toxicity.
- It is simple to prepare the solution and spray.
- Cost-effective
- It has 75% pesticidal action and 25 per cent growth promotion action.

About the Author

Dr. K. Natarajan, a practising physician, was born into a farming family in 1949 at Pappavalasu, a hamlet near Kodumudi, Erode district, Tamil Nadu. He graduated from the Thanjavur Medical College in 1973 and began to practise medicine at the R.S. Hospital, Kodumudi.

Over the years, Dr. Natarajan became conscious of the fact that many ailments affecting humanity were caused due to the consumption of foodstuffs with heavy toxic content, result of the extensive use of chemical fertilisers and pesticides in agriculture. This led him to advocate organic farming for growing toxin-free foods.

Dr. Natarajan later founded the *Rural Community Action Centre* (RCAC) to spread the message of organic, toxin-free food crop production. One of the activities of the RCAC is to popularise *Panchakavya*. Since the time it has been developed, *Panchakavya* has produced fantastic results in boosting agricultural production and protecting crops from disease and pests. It has succeeded in revolutionising the practice of organic farming and animal husbandry. *Panchakavya* has also proved to be highly efficacious as a medicine for human as well as animal ailments. Dr. Natarajan has also formulated other useful herbal medicines and pesticides.

Organic farmers have started finding more and more uses for *Panchakavya*, thus becoming natural scientists themselves. Now even agricultural scientists, veterinary doctors and human doctors have started evincing interest in its properties.

RCAC plans to work on the following issues with the active involvement of farmers, to further improve and popularise *Panchakvya:*

— To establish the cosmic relevance of *Panchakavya* to biological processes in human, animal and plants.

— To standardize the preservation technology for mass production and storage of *Panchakavya.*

— To containerize *Panchakavya* for long distance transport.

— To further investigate the influence of *Panchakavya* on the health of farm workers and animals.

— To investigate the efficacy of *Panchakavya* in AIDS/HIV therapy.

— To study the impact of both lunar and solar phases for production of *Panchakavya*.

— To identify the particular breed of cow to maximize the efficacy of *Panchakavya*

— To develop a protocol with *Panchakavya* to help reduce infertility in humans and animals.

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